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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,351	08/11/2000	TOSHIYUKI NAKAYAMA	106386	3351

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EXAMINER

CHU, CHRIS C

ART UNIT PAPER NUMBER

2815

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/582,351

Applicant(s)

NAKAYAMA, TOSHIYUKI

Examiner

Chris C. Chu

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-- The MAILING DATE of this c mmunicati n app ars n the c ver sheet with the correspondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 10, 12 - 19 and 21 - 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 10, 12 - 19 and 21 - 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 25, 2003 has been entered. An action on the RCE follows.

2. Applicant's amendment filed on July 25, 2003 has been received and entered in the case.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3 ~ 10, 12, 14 ~ 19 and 21 ~ 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al.

Regarding claim 1, the method steps are disclosed by Anderson et al. for the same reasons provided below paragraph at the device claim 12.

Regarding claim 12, Anderson et al. discloses in Fig. 1 and column 3, lines 61 ~ 66 a semiconductor device comprising:

- a semiconductor chip (10) having a plurality of electrodes;
- a substrate (16) on which is formed a plurality of leads (18); and
- an adhesive (28) provided between a surface of the semiconductor chip (8) on which the electrodes are formed and a surface of the substrate (16) on which said leads are formed, and adhering the semiconductor chip and the substrate,
- wherein at least one of the plurality of electrodes (20) and at least one of the plurality of leads (18) are electrically connected; and
- wherein on the substrate (16) in a region including at least a part of a region opposing the semiconductor chip, a film (36) is formed with a lower adhesion to the adhesive (28) than a base material of the substrate, and the film is broader than each of the leads at their portions opposed to the electrodes,
- wherein a region in which the adhesive is disposed includes a first region of low adhesion with the adhesive and a second region of high adhesion with the adhesive,
- the area of the first region being \geq the area of the second region.

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Further, since Anderson et al. does not limit wiring patterns to any specific or particular device, his/her disclosure encompasses all well known wiring patterns' including "leads."

Regarding claim 3, since Anderson et al. shows said leads and said film being formed from same material, the process "said leads and said film are formed by etching a conductive foil adhered to said base material of said substrate" is inherently disclosed by Anderson et al.

Regarding claim 4, Anderson et al. discloses in column 2, line 38 a conductive foil used when forming said leads is also used to form said film.

Regarding claim 5, Anderson et al. discloses said film being formed simultaneously with said leads.

Regarding claims 6 and 15, Anderson et al. discloses in Fig. 1 the electrodes (20) being provided at an extremity of the surface of the semiconductor chip (10); and the film (36) is formed in a region opposing a central part of the surface of the semiconductor chip.

Regarding claims 7 and 16, Anderson et al. discloses in Fig. 1 the film (36) being formed to spread two-dimensionally, with at least one opening exposing a surface of the substrate.

Regarding claims 8 and 17, Anderson et al. discloses in Fig. 1 the film (36) being formed to project outside a region in which the semiconductor chip is adhered.

Regarding claims 9 and 18, Anderson et al. discloses in Fig. 1 the film (36) being formed to be symmetrical about a center point of a region in which the semiconductor chip is adhered.

Regarding claims 10 and 19, Anderson et al. discloses in Fig. 1 the film (36) being formed to avoid at least one of the leads.

Regarding claim 14, Anderson et al. discloses said leads and said film being formed of the same electrically conductive material.

Regarding claims 21 and 22, these claims merely recite the intended use or the environment in which the semiconductor device of claim 12 is intended to be used. Since the claims fail to define any additional structure, Anderson et al. anticipates these claims as well.

Regarding claims 23, the method steps are disclosed by Anderson et al. for the same reasons provided below paragraph at the device claim 24.

Regarding claim 24, Anderson et al. discloses in Fig. 1 and column 3, lines 61 ~ 66 the plurality of leads (18) including a first lead on said substrate and a second lead which is closest to said first lead on said substrate, and a part of said film (36) is put between the first and second leads.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Oda (JP-07169795).

Anderson et al. discloses the claimed invention except for the adhesive being formed of an anisotropic conductive material having conductive particles dispersed in an insulating material. However, Oda teaches the adhesive (108 in Fig. 1) being formed of an anisotropic

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conductive material having conductive particles dispersed in an insulating material (see Fig. 1 and read constitution). Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify Anderson et al. by using the adhesive to be formed of an anisotropic conductive material which is having conductive particles dispersed in an insulating material as taught by Oda. The ordinary artisan would have been motivated to modify Anderson et al. in the manner described above for at least the purpose of increasing electric connections.

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu
Examiner
Art Unit 2815

c.c.
August 10, 2003

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a large, sweeping initial 'E'.

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800